SUBMISSION INSTRUCTION NO. 3

DESIGN PLANS AND REPORT FOR

INCINERATORS AND ENERGY RECOVERY FACILITIES

I. GENERAL. [§§ 370.C., 530.A., and 530.B., 9 VAC 20-80-10] The solid waste and combustion residue storage and handling processes associated with an energy recovery or incineration facilities shall be designed to reduce the potential of elements which may degrade health and environment from crossing the facility boundaries. Submit three copies of all plans and reports required by the regulations and listed in the instructions shown below.

II. SITE LAYOUT.

A. General Site Plans. [§§ 530.A.1., 530.A.2., and 530.A.3., 9 VAC 20-80-10] Furnish the following general site plans:

1. Existing Site Conditions. [§530.A.1., 9 VAC 20-80-10] Show conditions existing at the site prior to the development of the facility.

2. Modification Plans. [§§ 530.A.2., 530.A.3., and 530.A.6., 9 VAC 20-80-10] Show a progression of site development through time and the final appearance of the site after installation of all engineering modifications. Include typical cross sections, as appropriate.

3. Engineering Modifications. [§§ 370.C.11h, 370.C.11i, 530.A.4a, and 530.A.4b, 9 VAC 20-80-10]

- Profile and plan views of all structures and enclosures showing dimensions. Plan views showing building setbacks, side and rear distances between the proposed structure and other existing or proposed structures, roadways, parking areas and site boundaries.
- Interior floor plans showing layout, profile view and dimensions of the processing lines, interior unloading, sorting, storage, loading and other functional process areas.

B. General Facility Information. [§ 530.B.1., 9 VAC 20-80-10] Submit as a part of the

introduction to the Design Report the following information:

- Project title;
- Engineering consultants;
- Site owner, licensee and operator;
- Site life and capacity;
- Municipalities, industries and collection and transportation agencies served; and
- Waste types to be processed.

C. Site Access.

1. Security. [§§ 370.C.10. and 530.A.5e, 9 VAC 20-80-10] Show how the site access is controlled to include perimeter fencing and gate controls.

2. Roads. [§§ 370.C.2. and 530.A.5d, 9 VAC 20-80-10] Indicate access roads to the gate and from the gate to the management areas. Show traffic flow patterns to and within the storage and transfer areas. Specify the access road condition in the Design Report.

3. Queuing. [§§ 370.C.8. and 530.B.4., 9 VAC 20-80-10] Indicate on-site parking, access and exit points, and describe the mechanisms or features which will be employed to provide for an even flow of traffic into, out of, and within the site. The description must show that the waiting delivery vehicles will not back up onto the public road.

D. Utilities. [§ 530.A.4c, 9 VAC 20-80-10] Show and describe utilities which will service the facility to include at least:

- Storm water drainage system;
- Sanitary sewer system;
- Water supply and energy systems; and
- Interface of the proposed facility with existing utility systems.

E. Aesthetics. [§ 530.A.5f, 9 VAC 20-80-10] Show natural or artificial screening of the operation areas.

F. Benchmarks. [§ 530.A.5b, 9 VAC 20-80-10] Show the location of the site benchmarks and the survey grid. Indicate in the Design Report or on the plans the benchmark information.

III. PROCESS UNIT DESIGN. Show on the plans the engineering design of the process units. Include any construction notes that are needed. Discuss in the Design Report the following:

A. Process Capacity. [§§ 370.C.6., 370.C.11., 530.B.2., and 530.B.3., 9 VAC 20-80-10] Show in the design plans and describe in the Design Report the following information:

- The rated capacity of the facility, in both tons per day and tons per hour;
- The expected short term and projected future long term daily loading;
- The location and the capacity of normal loading, unloading and storage areas, in cubic yards and tons; include description of the time such areas can be practically used, based on expected short-term daily loadings;
- The location and the capacity of emergency loading, unloading, storage areas and other capabilities to be used when the facility system down-time exceeds 24 hours;
- The location of alternate management facilities or discussion of plans for transfer of stored waste in the event facility down-time exceeds 72 hours; and
- The expected daily quantities of waste residues including, but not limited to, ashes, by-pass and recycled materials, air pollution control residues, and unauthorized wastes.

B. Surfacing of Handling Areas. [§§ 370.C.3. and 370.C.5., 9 VAC 20-80-10] Provide a description of the surfaces of loading, unloading, and storage areas, demonstrating that they will withstand heavy vehicle usage and that they can be easily cleaned.

C. Safety. [§§ 370.C.4. and 370.C.9., 9 VAC 20-80-10] Show truck wheel curbs and other safety features to prevent backing or falling into unloading pit. Describe the fire alarm and protection systems to detect, control, and extinguish fires.

D. Odors and Dust. [§ 370.C.7., 9 VAC 20-80-10] Describe how the facility design will prevent the migration of odors and dust off-site.

E. Use, Reuse, and Reclamation. [§§ 370.C.11g and 530.B.3c, 9 VAC 20-80-10] Describe any materials use, reuse, or reclamation activities to be operated in conjunction with the

proposed facility.

F. Disposal of Residues. [§§ 370.C.11f and 530.B.3., 9 VAC 20-80-10] Describe the proposed ultimate disposal for all facility-generated waste residues (including, but not limited to, ashes, by-pass and recycled materials, air pollution control residues, and unauthorized wastes).

G. Equipment Maintenance. [§ 530.B.4., 9 VAC 20-80-10] Describe and give detailed specification of the proposed on-site and off-site transportation system to service vehicles hauling wastes and residues.

IV. LIQUIDS MANAGEMENT SYSTEMS.

A. Site Drainage Control. [§ 530.A.5c, 9 VAC 20-80-10] Show all drainage patterns and surface drainage control structures within the waste and residue handling areas and at the site perimeter to include berms, ditches, sedimentation basins, pumps, sumps, culverts, pipes, inlets, velocity breaks, sodding, erosion matting, or other methods of erosion control.

B. Process and Storage Drainage. [§ 370.C.3., 9 VAC 20-80-10] Show properly graded floor drains in the loading, unloading and storage areas and describe how the design will accommodate washdown operations. Include connections to the wastewater collection system. In cases of subgrade storage structures, show and describe how groundwater intrusion will be prevented.

C. Wastewater System. [§ 530.A.5g, 9 VAC 20-80-10] Show the wastewater collection, control and treatment (if applicable) systems to include pipes, manholes, trenches, berms, collection sumps or basins, pumps, and risers. Describe the final disposal of all wastewaters.

V. WASTE SUPPLY ANALYSIS. [§§ 370.C.12. and 530.C., 9 VAC 20-80-10] Provide the results of the waste supply analysis study characterizing the quantity and composition of the solid waste in the service area. greater detail see *Submission Instructions No. 10.*